



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/552,827

10/07/2005

Masatoshi Kuwajima

OGW-0395

9466

24978

7590

10/03/2007

GREER, BURNS & CRAIN
300 S WACKER DR
25TH FLOOR
CHICAGO, IL 60606

EXAMINER

FAN, HONGMIN

ART UNIT

PAPER NUMBER

2612

MAIL DATE

DELIVERY MODE

10/03/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<p align="center">Office Action Summary</p>	Application No. 10/552,827	Applicant(s) KUWAJIMA, MASATOSHI	
	Examiner Hongmin Fan	Art Unit 2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 4-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4-7,9 and 14 is/are rejected.
- 7) ☒ Claim(s) 8, 10-13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ichihara et al (US Pub. 2006/0093015) in view of Metcalf et al (US Pub. 2005/0076992).

As to claim 1, referring to Fig. 1, Ichihara et al disclosed a device for deciding travel life of run-flat tire comprising a so-called side-reinforced run-flat tire in which a reinforcing rubber is arranged on at least a sidewall portion of the tire at an inner surface side thereof (¶0028, line 4-6), a detection unit 4 is mainly constructed with a temperature sensor 9 measuring the temperature in the interior 3 of the tire (¶0051, line 5-8), a process and the like for judging a residual lifetime of a run-flat tire and an end stage of the residual lifetime thereof (i.e. warning of the operation limit)(Abstract, line 1-3).

Ichihara et al did not disclose the temperature sensor is disposed on the inner surface of sidewall. However, it is known in the art to mount temperature sensor on sidewalls. Metcalf et al teach a method of mounting tire electronics having an electronic component 37 (i.e. temperature sensor, ¶0045, line 10) mounted on a sidewall of a tire. Therefore, it would have been obvious to one of ordinary skills in the art at the time of

Art Unit: 2612

the invention to have the temperature sensor disposed on the sidewall of a tire since it is known in the art.

Claims 4-7, 9 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ichihara et al (US Pub. 2006/0093015) in view of Metcalf et al, further in view of DeZorzi (US Pub. 2002/0075144).

As to claim 4, referring to Fig. 1, Ichihara et al disclosed a calculation means 5 for calculating various data by using the measured value of the atmosphere temperature inside tire received with the receiver 10 (0063, line 3-5); a display 14 for displaying the results calculated by the calculation means 5 (¶0063, line 9-10), such as temperature limit shown in Fig. 3. Ichihara et al did not disclose a warning means when run-flat operation limit is reached. However, it is known in the art to send a warning based on run-flat operation limit. Referring to Fig. 7, DeZorzi teaches an apparatus for sensing a condition of a vehicle tire, comprising a temperature alert mode (broadcast). Therefore, it would have been obvious to one of ordinary skills in the art at the time of the invention to incorporate a warning based on temperature limit in Ichihara's device since it is known in the art.

As to claim 5, referring to Fig. 1-2, Ichihara et al disclosed the detection unit 4 (i.e. tire side unit) comprising a temperature sensor 9 and a transmitter 11 for transmitting sensed data; a receiver unit 15 for receiving and processing the data transmitted from the detection unit 4 at an outer side of the tire, more concretely, at the vehicle body side 13 in addition to the detection unit 4 (¶0062, line 1-5); the receiver unit

15 comprises a calculation means 5 (i.e. processing means) and a display 14 for displaying results calculated by the calculation means 5 (i.e. warning means)(¶0063, line 9-10).

As to claim 6, Ichihara et al disclosed a memory means 6 is memorized the basis data (i.e. temperature limit, see below) to be compared with the data calculated by the calculation means 5. Further, the limit temperature, the transition temperature, the coefficient B of the exponential function $f(t)$ as mentioned later and the like may be memorized, if necessary (¶0065).

As to claim 7, Ichihara et al disclosed that although the detection unit 4 of FIG. 1 shows a construction conducting only a measurement of temperature, it may incorporate, for example, a construction for measuring the internal pressure (¶0059, line 1-4). And, DeZorzi further teaches a pressure alert mode (broadcast), see Fig. 7.

As to claim 9, Ichihara et al disclosed a process for judging an end stage of a residual lifetime of a run-flat tire during continuous running at a run-flat state in a vehicle equipped with a run-flat tire system comprising run-flat tires and detection units each arranged in the respective tire and capable of measuring at least an atmosphere temperature inside tire, characterized in that when at least one run-flat tire among the run-flat tires is continuously run at the run-flat state by an abnormal lowering of an internal pressure (i.e. pressure sensing) accompanied with the occurrence of puncture or the like, the atmosphere temperature inside tire in the run-flat tire continuously running at the run-flat state is measured, and a ratio of temperature change at each measuring time is calculated, and a time point in which the calculated ratio of

Art Unit: 2612

temperature change becomes higher than the ratio of temperature change calculated just before the calculation is judged as an end stage of the residual lifetime in the run-flat tire during continuous running at the run-flat state (§0031).

In addition, the running distance predicted to reach to the limit temperature can be determined as product of the present running speed (i.e. speed obtaining means) and the calculated runnable time (§0082).

As to claim 14, the claim is interpreted and rejected as claim 5 and 9.

Specification

Allowable Subject Matter

Claim 8, 10-13 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

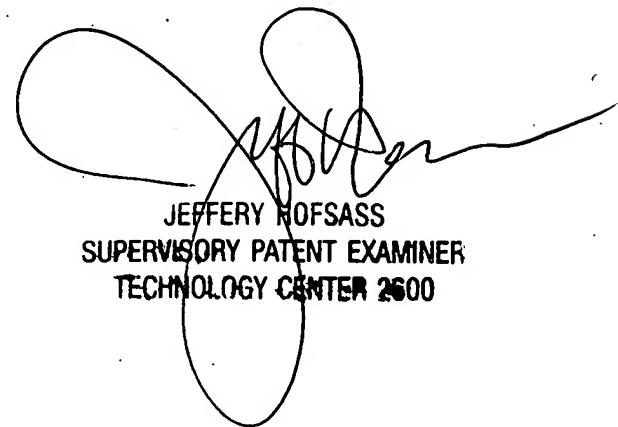
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hongmin Fan whose telephone number is 571-272-2784. The examiner can normally be reached on Monday - Friday, 8:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffery Hofsass can be reached on 571-272-2981. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2612

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HF



JEFFERY HOFSAAS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600